on US health-care, both directly and through substantially increased risks of micro- and macrovascular complications over time. The goal of this study was to estimate diabetes-related clinical and economic outcomes following a myocardial infarction (MI) or stroke. The impacts of experiencing an MI or stroke on five-year mortality rates and life expectancy were estimated using National Health and Nutrition Examination Survey data. **METHODS:** A Monte Carlo microsimulation was developed to estimate the number of complications, mortality, and diabetes-related medical costs for T2DM patients. The simulation uses T2DM comorbidities from the CDC diabetes cost-effectiveness group and risk equations from the United Kingdom Prospective Diabetes Study (UKPDS 82). Five-year mortality rate and medical and pharmacy costs were estimated for a cohort of 100,000 patients. Cohorts were simulated for five years and projected over a lifetime with and without an initial MI or stroke event for both genders and different age groups. One-way sensitivity analyses including years since diagnosis, baseline HbA1c, blood pressure, cholesterol, and smoking were performed separately for MI and stroke. **RESULTS:** A 60-year-old male patient with a 7.5% baseline HbA1c was estimated to have a mortality rate of 0.15 over five years and to incur $22,096 without an initial MI or stroke. The mortality and cost increased to 0.44 and $69,286 after an initial MI and 0.51 and $73,297 after an initial stroke. The patient's life expectancy decreased from 14.8 years to 7.9 and 6.6 years after an initial MI and stroke, respectively. **CONCLUSIONS:** Diabetes-related vascular complications significantly decrease life expectancy and increase the economic burden of T2DM. Preemptive actions and treatments to reduce MI and stroke risk in T2DM patients can be cost-justified.

PDB43

ECONOMIC BENEFITS OF ULTRASONIC DEVICES IN THYROIDECTOMY

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OBJECTIVES: The use of ultrasonic devices (UD) in thyroidectomy may have significant economic impact due to improved efficiency and benefits of clinical outcomes without increasing rates of surgical complications. To fully characterize the potential economic benefit of UD in thyroidectomy, the objective of this study was to develop a provider budget impact model to quantify potential cost savings over conventional surgical techniques. **METHODS:** A budget impact model was developed in the perspective of a US hospital, comparing the use of UD with conventional techniques in patients undergoing thyroidectomy. Clinical parameters were derived from published literature, including a meta-analysis of 26 studies, and focused on the differences between ultrasonic and conventional surgeries across four areas: 1) operating time, 2) blood loss, 3) duration of recovery time, and 4) risks of other complications. Costs of care were obtained from published commercial and Medicare fee schedules, and other costs and risks relating to thyroidectomy were obtained from published literature. **RESULTS:** UD showed clinical and economic advantages compared to conventional surgery, with notable reductions of operating time and blood loss by 29% and 20%, respectively. Reductions were also seen in risk of surgical site infection and anesthesia utilization due to reduction in operating time, with the possibility of reducing other surgical side effects associated with operating time such as venous thromboembolism. Total cost savings were estimated at approximately $1,501 per patient, with the higher up-front cost of the UD offset by the aforementioned savings. **CONCLUSIONS:** The clinical benefits of UD can be translated into economic benefits for providers in the US. Further studies are needed to assess the impact of those benefits on clinical practice, especially taking into account the practical consequences of reduced operating time, including potential shift in setting from inpatient to outpatient care and possible increases in the rate of procedures performed.

PDB44

HEALTH CARE RESOURCE UTILIZATION AND COSTS AMONG DIABETES PATIENTS RESIDING IN LONG-TERM CARE FACILITIES

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OBJECTIVES: To evaluate health care resource utilization and costs among diabetes patients residing in long-term care facilities. **METHODS:** Patients diagnosed with diabetes (International Classification of Diseases, 9th Revision, Clinical Modification diagnosis codes 250.x0, 250.x2) were identified using the Long-Term Care Minimum Data Set (MDS) linked to 5% Medicare data from 01JAN2009 through 31DEC2010. The initial diagnosis date was designated as the index date. A comparison cohort was created for patients without diabetes, using 1:1 propensity score matching (PSM) to control for age, region, gender and baseline Charlson Comorbidity Index score. The index date for the comparison cohort was randomly chosen to reduce selection bias. Patients in both cohorts were required to be age ≥65 years, have at least two consecutive quarterly assessments documented in MDS data 6 months prior to the index date and have continuous medical and pharmacy benefits for 1-year pre- and post-index date. Health care resource utilization and costs were compared between the diabetes and comparison cohorts. **RESULTS:** After applying PSM, 783 patients were included in each cohort, and baseline characteristics were balanced. Diabetes patients had a higher percentage of inpatient (31.29% vs. 22.73%, p=0.0001), skilled nursing facility (SNF, 31.55% vs. 22.73%, p<0.001), durable medical equipment (27.46% vs. 16.48%, p<0.0001) and pharmacy visit claims (93.10% vs. 88.76%, p=0.0028) compared to those without diabetes. Patients in the diabetes cohort also incurred significantly higher inpatient ($5,801 vs. $3,071, p<0.0001), SNF ($5,532 vs. $3,244, p<0.0001), carrier claim ($3,118 vs. $2,437, p=0.0002) and pharmacy visit costs ($5,040 vs. $4,275, p=0.0005) than those in the comparison cohort. **CONCLUSIONS:** Patients diagnosed with diabetes had significantly higher health care resource utilization and costs than those without diabetes.

PDB45

THE CLINICAL AND ECONOMIC VALUE OF A DIGITAL LIFESTYLE INTERVENTION PROGRAM IN THE PREDIABETES POPULATION: CASE STUDY WITH THE 'PREVENT' PROGRAM

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OBJECTIVES: To estimate the health and economic value of participation in digital lifestyle intervention program for people with prediabetes **METHODS:** The study investigated 'Prevent' program which is modeled after CDC's Diabetes Prevention Program. The core phase of this digital program consisted of 16 weekly lessons, followed by periodic follow-up to reinforce lesson content and provide encouragement. The analysis sample included 2,371 Prevent participants who were overweight or obese and have prediabetes. Participants' weight at or before 26 weeks was studied to calculate weight change. A Markov-based microsimulation model simulated onset of obesity and diabetes comorbidities annually over 10 years among participants under two scenarios (1) weight loss and A1c improvements achieved through Prevent, and (2) natural history of disease in the absence of Prevent. A second population that met USPSTF's recommendation for intensive behavioral counselling was also evaluated following the same process to estimate the benefits of 'Prevent' in different populations. **RESULTS:** Participants with prediabetes experienced average weight loss of 5.13%. Prevent was associated with a 28% reduction in diabetes onset over 3 years and 30% over 5 years. Cumulative over 3 and 5 years, the present value of reduced medical expenditures averaged $1,310 and $2,870, respectively. Comparing medical savings to program costs, the break-even point was two years. The simulated return on investment (ROI) was $860 after 3 years, $2,420 after 5 years, and $8,770 after 10 years. In the USPSTF population, the model projected reduction in disease onset similar to that in the prediabetes population. The ROI was $950, $2,370 and $7,500, for 3, 5, and 10 years, respectively. **CONCLUSIONS:** Intensive lifestyle intervention is recommended by the U.S. Preventive Services Task Force as the first-line treatment for prediabetes, and internet-based programs like Prevent appear to provide both substantial health benefits to participants and high return on investment.

PDB46

A HEALTH ECONOMIC EVALUATION OF THE EDGE STUDY USING THE IMS CORE DIABETES MODEL

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OBJECTIVES: The observational, non-interventional EDGE study showed that vildagliptin is effective in patients with type 2 diabetes mellitus who have suboptimal glycemic control on metformin (MET) monotherapy in the real-world setting, confirming the results of previous randomized clinical trials (RCTs). Cost-effectiveness evaluations are typically based on RCT data, which offer high internal validity and are the gold standard in evaluating efficacy and short-term safety. Nevertheless, they lack external validity and generalizability and there is a growing trend towards the complementary use of real-world data. Consequently, we sought to perform a health economic evaluation of the EDGE study using an established diabetes outcomes model. **METHODS:** The IMS Core Diabetes Model (CDM), a recently validated diabetes model, was used to evaluate the costs and outcomes of MET+vildagliptin (M+V) compared to MET+sulfonylurea (M+S), based on data derived from the EDGE study worldwide. M+V was associated with HbA1c and BMI changes of -1.19% and 0.199 kg/m2, respectively. Corresponding data for M+S were -0.99% and 0.707 kg/m2, respectively. Published network meta-analysis data were used to populate the CDM with hypoglycemia rates. The model was run over a lifetime, with costs ($US) and benefits discounted at 3.0%. **RESULTS:** Predicted quality-adjusted life expectancy (QALE) was 11.14 and 11.07 in patients treated with M+V and M+S, respectively. Total direct costs were estimated at $US 90,788 and $US 85,692 for patients treated with M+V and M+S, respectively. Incremental differences between M+V and M+S were 0.07 for QALE and $US 5,096 for total costs, yielding an incremental cost-effectiveness ratio (ICER) of $US 72,800. **CONCLUSIONS:** In the real-world setting, compared to sulfonylureas, vildagliptin was estimated to be cost effective using US ICER thresholds. These data further highlight the potential role of real-world data in assessing health economic value.

PDB47

DIABETES MELLITUS TREATMENT: COST-EFFECTIVENESS OF SCHEMES THERAPEUTIC GLARGINE AND NPH - BRAZIL, 2014

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OBJECTIVES: Diabetes mellitus (DM) is a chronic disease considered a worldwide public health problem. DM can result in harm to the patient in the aspects clinical, social, economic and quality of life, given its potential of morbidity and mortality DM (SBD, 2003). Expenditures for financing costly dispensing drugs have shown continuous growth trend in the Brazilian National Health Service (SUS). This creates the need for rationalization and optimization of growing financial contributions of resources for health. The purpose of this study was to evaluate the cost-effectiveness of Glargine - insulin analogue versus NPH - insulin in the treatment of diabetes mellitus type I and II. **METHODS:** We developed a decision model using Markov method to perform the cost-effectiveness of Glargine and NPH in the treatment of diabetes mellitus type I and II. Calculations were performed for a time horizon of 10 to 20 years in annual cycles. The perspective is that of the SUS. Additionally analysis Cost-utility and sensitivity were performed. **RESULTS:** In 20 years (with 5% discount), the effectiveness was equal (as in 10 years) between Glargine and NPH insulin presenting 7.62 Avg. The total cost to NPH insulin was U$9,114.95 and the total cost of insulin Glargine was U$21,128.49 In 20 years (with 5% discount), the utility was similar (as in 10 years) between Glargine and NPH insulin presenting